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of the emulsifier, 0.1 to 3% by mass at least one sucrose fatty acid ester or polyglycerol fatty acid ester, 0.01 to 2% by mass succinic acid monoglyceride, and 0.1 to 3% by mass at least one monoglyceride, diglyceride, sorbitol fatty acid ester or sorbitan fatty acid ester provided that the total amount of the emulsifiers is 0.3 to 5% by mass.

REMARKS

Reconsideration of this application is requested. Claims 9-14 are active in the application subsequent to entry of this amendment.

The issues raised in the current Official Action relate to newly cited U.S. Patent 5,288,512 to Seiden. Applicants have carefully considered and reviewed the content of this newly cited document and respond to the rejections set forth in the Official Action as follows. In overview, applicants' claim taking claim 9 as an illustration, are distinguished from Seiden in at least the following four points:

- (1) At ordinary temperature, the fat of Seiden is solid, but the oil or fat composition of the present invention is liquid.
- (2) The proportion of long-chain saturated fatty acids in all the long-chain fatty acids composing the composition is at least 33.3% by weight in the fat of Seiden, but 20% by mass or less in the oil or fat composition of the present invention.
- (3) The fat of Seiden contains a mixture of MML triglycerides and MLM triglycerides at a content of at least 10% by weight, but the oil or fat composition of the present invention contains the mixture only at a content of at most 4% by mass.
- (4) The problems to be solved and the effects of the present invention totally differ between Seiden and the present invention.

Therefore, it is apparent that the present invention is not anticipated by Seiden. Further, since, as mentioned above, both inventions are not only completely different in the means (constitution of the invention), but also utterly different in the problems to be solved and the effects of the invention, it is impossible for one skilled in the art to reach

the present invention with the aid of Seiden. Therefore, not only is the present invention novel it is unobvious over Seiden.

The above points are described in detail below.

(1) At ordinary temperature, the fat of Seiden is solid, but the oil or fat composition of the present invention is liquid.

It is apparent from Seiden that the "fat" is **solid**. Namely, for example, it is described, in column 3, line 66 to column 4, line 7 of Seiden, that although triglycerides with long-chain saturated fatty acids such as tristearin and tribehenin are reduced in calories because the fatty acids are only poorly absorbed and metabolized by the body, the triglycerides taste unpalatably like wax, and therefore that there is a need for a means of transforming these waxy long chain fats into good-tasting fats that are still reduced in calories; it is described, in column 4, lines 8 to 26, that it was found that by replacing part of the fatty acids of the waxy long chain fats with medium-chain saturated fatty acids, the fats can be converted into triglycerides which melt below body temperature and do not taste waxy; and it is described in column 4, line 62 to column 5, line 8, that this non-waxy taste benefit is particularly evident in chocolate products made with the preferred reduced calorie fats, and the chocolate products melt at a temperature of 94 to 96° F (26.7-34.4°C), which makes the melting of the products in the mouth possible.

On the other hand, it is apparent, for example from the following description in the specification, that the oil or fat composition of the present invention is **liquid** at ordinary temperature. Namely, it is described, in page 4, lines 4 to 7, that "The object of the invention lies in providing an oil or fat composition which is low in body fat accumulation, has equal cooking properties with conventional edible oils ..."; it is described, in page 7, lines 8 to 16, that "the proportion of long-chain saturated fatty acids in all the long-chain fatty acids composing the oil or fat composition is preferably 20% by mass or less ... If the proportion is more than 20% by mass, stability at low temperature is lowered, crystallization of oil or fat comes to occur in the oil or fat composition, ..."; and, in Table 7 of Example 9, Composition 4 (the proportion of long-

chain saturated fatty acids in all the long-chain fatty acids is 48.6%, which is out of the range of the invention) is inferior in cold resistance, and as the explanation, it is described, in page 27, lines 5 to 7, that "in Composition 4, deposition of crystals was observed, but the other samples (= compositions of the present invention) had transparent appearance." Further, in Example 9, the test of "stability in deep frying" is carried out, and it is described that "A sample oil (600 g) was put in a household electric fryer, battered prawns were deep-fried for 30 minutes, ... at 180°C." Oil used for tempura is liquid oil.

(2) The proportion of long-chain saturated fatty acids in all the long-chain fatty acids contained in the composition is at least 33.3% by weight in the fat of Seiden, but 20% by mass or less in the oil or fat composition of the present invention.

From the fatty acid composition of the fat of Seiden described in column 3, lines 29 to 49 of Seiden, by applicants' calculations the proportion of long-chain saturated fatty acids in all the long-chain fatty acids composing the fat is, at the lowest, $[10/(10 + 20)] \times 100 = 33.3\%$ by weight, and at the highest, $[(70 + 10)/(70 + 10 + 0)] \times 100 = 100\%$ by weight. In the above calculation, C_{14} saturated fatty acids are assumed to be included in long-chain saturated fatty acids. On the other hand, in the present invention, as shown in claim 9, the proportion of long-chain saturated fatty acids in all the long-chain fatty acids composing the oil or fat composition of the invention is 20% or less. % by weight is equal to % by mass – contrast this with Seiden's minimum of 33.3%.

(3) The fat of Seiden contains a mixture of MML triglycerides and MLM triglycerides at a content of at least 10% by weight, but the oil or fat composition of the present invention contains the mixture only at a content of at most 4% by mass.

It is described in claim 1 and column 7, lines 4-43 that the fat of Seiden contains the mixture of MML triglycerides and MLM triglycerides at a content of at least about 10% by weight. There, M is a C_6-C_{10} saturated fatty acid, and L is a $C_{17}-C_{26}$ saturated fatty acid. On the other hand, in the oil or fat composition of the present invention, the proportion of triglycerides having two medium-chain fatty acid residues in the molecule in all the triglycerides is 1 to 20% by mass. The residual single fatty acid residue is

usually composed of a long-chain saturated fatty acid. This long-chain fatty acid is a long-chain unsaturated fatty acid or a long-chain saturated fatty acid, but the proportion of the long-chain saturated fatty acid therein is only 20% by mass or less of all the long-chain fatty acids (claim 9). Therefore, when one assumed that the molecular weight of the long-chain unsaturated fatty acid and that of the long-chain saturated fatty acid are almost the same, the proportion of triglycerides having two medium-chain fatty acid residues and one- long-chain saturated fatty acid residue in the molecule in all the triglycerides, in the oil or fat composition of the present invention, is only $20X(20/100)X100=4\%$ by mass at most – far less than Seiden's minimum of at least 10%-by-weight.

(4) The problems to be solved and the effects of the present invention utterly differ between Seiden and the present invention.

In Seiden, the problems and the objectives are to provide a fat which is reduced in calories and has an improved taste (= having no waxy taste); usefully utilize waxy long chain fats such as tristearin and tribehenin by converting them to fats having an improved taste; provide an alternative fat reduced in calories which has the same melting point as chocolate and is especially fit for chocolate products; etc.

On the other hand, in the present invention, the problems and the objectives are to provide an edible oil composition which is low in body fat accumulation and excellent in stability at low temperatures (free of deposition of crystals) (claim 9). Further, in a preferred embodiment of the invention (claim 11), the edible oil composition of the invention has excellent cooking properties (e.g., less occurrence of stable fine foams).

Here, relationships between the constituents and the effects in the invention are explained including demonstrative data. The effect of "low in body fat accumulation" is exerted by meeting the two conditions in claim 9, that is "the proportion of medium-chain fatty acids in all the fatty acids composing the oil or fat composition is 5 to 23% by mass" and "the proportion of triglycerides having two medium-chain fatty acid residues in the molecule in all the triglycerides is 1 to 20% by mass" (page 6, line 18 to page 7, line 16). This effect is demonstrated in Example 8. In Table 6, oil or fat compositions 1,

6 and 7 meet the above two conditions, but oil or fat compositions 9 and 10 are outside of the conditions. Whereas, in oil or fat compositions 1, 6 and 7, being low in body fat accumulation is demonstrated at a 5% or less level of significance, oil or fat compositions 9 and 10 are the same with the control in body fat accumulation. The effect of "excellent in stability at low temperatures" is exerted by meeting the condition of "the proportion of long-chain saturated fatty acids in all the long-chain fatty acids composing the oil or fat composition is 20% by mass or less" in claim 9 (page 6, line 18 to page 7, line 16). This effect is demonstrated in Example 9. In Table 7, oil or fat compositions 1, 2, 6 and 8 meet the above condition, but oil or fat composition 4 is out of the condition. Oil or fat compositions 1, 2, 6 and 8 are excellent in "cold resistance" (assessed by yes or no of deposition of crystals after allowing to stand at 5°C), whereas oil or fat composition 4 is inferior.

The effect of "excellent in cooking properties" is exerted by meeting the condition of "the proportion of triglycerides having three medium-chain fatty acid residues in the molecule in all the triglycerides composing the oil or fat composition is 3% by mass or less." in claim 11 (page 6, line 18 to page 7, line 16). This effect is demonstrated in Example 9. In Table 7, oil or fat compositions 1, 2 and 6 meet the above condition, but oil or fat composition 8 is outside of the condition. Oil or fat compositions 1, 2 and 6 are excellent in "stability in deep frying" (assessed by the degree of the occurrence of stable fine foams in the deep frying cooking), whereas oil or fat composition 8 is inferior.

To anticipate a claim, a single reference must disclose the claimed invention with sufficient clarity to prove its existence in the prior art. *Motorola Inc. v. Interdigital Technology Corp.*, 43 USPQ2d 1481, 1490 (Fed. Cir. 1997). Anticipation rejections are only proper when the "claimed subject matter is identically disclosed or described in 'the prior art', without *any* need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference." *In re Arkley*, 172 USPQ 524, 526 (CCPA 1972); *see also Akzo N.V. v. International Trade Commission*, 1 USPQ 2d 1241, 1246 (Fed. Cir. 1986); *Ex parte Lee*, 31 USPQ 2d 1105, 1108 (BPAI 1993). Every element of the challenged claim must be disclosed within this single

reference. *PPG Industries Inc. v. Guardian Industries Corp.*, 37 USPQ2d 1618, 1624 (Fed. Cir. 1996). Absence from the reference of any claimed element negates anticipation *Kloster Speedsteel AB v. Crucible Inc.* 23 USPQ 160 (Fed. Cir. 1986).

From at least the above 4 points, it is apparent that none of applicants' claims are anticipated by Seiden.

Further, since it is apparent from the above 4 points that the present invention is not within the disclosure of Seiden, no matter how widely the conditions of the constituents are varied, for example the content of low calorie triglycerides selected from MML, MLM, LLM and LML and mixtures thereof, the content of the mixture of MML and MLM, the fatty acid composition, etc., are varied, in the range of Seiden's disclosure, the present invention cannot be reached. Namely, applicants' claims are not obvious over Seiden. On the contrary, when one skilled in the art follows the teaching of Seiden, he surely is lead in a direction more distant from the present invention. For example, the content of the mixture of MML and MLM of the above (3) is described to be at least 10% by weight in claim 1 of Seiden, but in page 7, lines 4 to 43, it is described that the content is more preferably far greater – at least about 35% by weight, most preferably at least about 70% by weight (4% by mass or less in the present invention).

Further, since the invention of Seiden and the present invention utterly differ not only in the constitution of the invention but in problems to be solved and effects, and Seiden does not have any description nor suggestion about the problems to be solved and effects in the present invention, thus it is impossible that the present invention is suggested by the disclosure of Seiden and the description/suggestion of Seiden. Namely, the problems to be solved and effects of Seiden are to provide an alternative fat which is reduced in calories, has an improved taste, is particularly suited for chocolate products and has the same melting point as chocolate, and to effectively utilize waxy long chain fats such as tristearin and tribehenin which have not been used in food – the more one pushes on with these objectives, the farther he goes away from the present invention as defined in applicants' claims, as discussed above. Moreover,

Seiden does not describe nor suggest the problems to be solved and effects of the present invention. Therefore, even if one skilled in the art meticulously one studies Seiden, he cannot realize much less solve the problems addressed by the present invention, that is, for providing an edible oil composition low in body fat accumulation and excellent in stability at low temperatures (free of deposition of crystals), "making the proportion of medium-chain fatty acids in all the fatty acids composing the oil or fat composition 5-23% by mass" and "making the proportion of triglycerides having two medium-chain fatty acid residues in the molecule in all the triglycerides 1-20% by mass" (claim 9).

An important fundamental distinction must be observed—"low calories" in Seiden and "low in body fat accumulation" in the present invention are different concepts because the former relates to calories which the product fat itself has and the latter relates to degree to accumulate as body fat. Further, in Seiden, "low calories" are accomplished by utilizing the ability of waxy long chain fats such as tristearin and tribehenin to be only poorly absorbed and metabolized, whereas, in the present invention, "low in body fat accumulation" is accomplished by utilizing medium-chain fatty acids and/or medium—chain triglycerides such as MCT (they are easy to convert into energy and low in body fat accumulation), thus Seiden does not describe nor suggest such means in the present invention. Although Seiden also uses medium-chain fatty acids and/or MCT, it is only used for improving the taste of waxy long chain fats such as tristearin and tribehenin (getting rid of waxy taste) and lowering the melting point of the product.

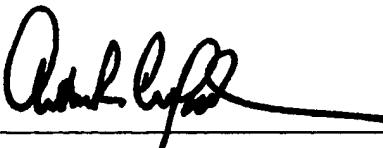
In the preferred embodiment of the present invention (claim 11) the condition of "the proportion of triglycerides having three medium-chain fatty acid residues in the molecule in all the triglycerides composing the oil or fat composition is 3% by mass or less" is further added, and unobviousness over Seiden becomes even more apparent. Seiden also describes that "These preferred reduced calorie fats comprise not more than about 15% by weight, more preferably not more than about 10% by weight, and most preferably not more than about 5% by weight MMM triglycerides." (column 7, lines

4-43) (although, in Office Action, the Examiner says that "The levels of MMM are stated to be minimized at a level of no more than 5% by weight and most preferably not more than 2% by weight MMM", but this does not agree with the content of the reference). No reason for this is given by Seiden however it is assumed the reason is to provide a melting point suitable for use in chocolate products. The above 3% by mass or less in the preferred embodiment of the present invention is a more severe condition than that, and the purpose is further improvement of cooking properties (e.g., reduced formation of stable fine foams) (Example 9, Table 7). This is demonstrated by the data included in applicants' specification. According to Table 7, oil or fat compositions 1, 2, 4 and 6 falling within the above 3% by mass or less are better in deep frying stability than oil or fat composition 8 outside of the range (4.8% by mass). Thus, although the above "3% by mass or less" in the invention apparently falls within the above not more than about 5% by weight of Seiden, the purpose of value limitation is utterly different, and even the above 4.8% by mass falling within the most preferred range of Seiden is insufficient in the preferred embodiment of the invention (claim 11), and therefore, it is unobvious over Seiden to one skilled in the art to reach the above condition of the invention.

For the above reasons, the rejections of claims 9-14 under 102(b) and 103(a) are not appropriate and the claims should be allowed.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

Arthur R. Crawford
Reg. No. 25,327

ARC:eaw

1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

MARKED UP CLAIMS

12. (Amended) The oil or fat composition according to claim 9 which further contains as an emulsifier at least one sucrose fatty acid ester, polyglycerol fatty acid ester, succinic acid [monolyceride] monoglyceride, [monolyceride] monoglyceride, diglyceride, sorbitol fatty acid ester or sorbitan fatty acid ester, in an amount of 0.1 to 6% by mass based on the oil or fat composition before the incorporation of the emulsifier.

13. (Amended) The oil or fat composition according to claim 9 which further contains, as an emulsifier, based on the oil or fat composition [be fore] before the incorporation of the emulsifier, 0.1 to 3% by mass at least one sucrose fatty acid ester or polyglycerol fatty acid ester, 0.01 to 2% by mass succinic acid monoglyceride, and 0.1 to 3% by mass at least one monoglyceride, diglyceride, sorbitol fatty acid ester or sorbitan fatty acid ester provided that the total amount of the emulsifiers is 0.3 to 5% by mass.